<center>REMARKS/ARGUMENTS</center>

Claims 1-4, 6-14, 16-20, and 22-25 are pending in the application. Applicant, by this paper, amends claims 1, 10, 11, and 17. Applicant cancels claim 26. No new matter is added by amendment.

Applicant thanks the Examiner for allowing claim 23. Applicant respectfully requests reconsideration and allowance of all pending claims.

"Software per se"

The Office Action states that "Applicant is reminded that software per se is not patentable. It must be stored in a computer readable medium."

Applicant respectfully requests clarification of the meaning of the phrase "software per se" as used in the Office Action. Herein, it appears that the phrase is being used to refer to instructions that are not included in the described physical system, and we assume that interpretation below.

Discussion of Rejections Under 35 U.S.C. §101

Claims 11-14 and 16 were rejected under 35 U.S.C. §101 as allegedly directed to non-statutory subject matter. Applicant respectfully traverses the rejection.

The Office Action alleges it is reasonable to interpret the "analysis means" and the "modeling means" as software/program elements. Applicant agrees that the disclosed structure covered by these claim features includes implementations that include software (as a *structural* element of the system), as well as hardware and hardware/software implementations (see, e.g., paragraph [0031] of the specification). However, the Examiner argues that "it appears reasonable to interpret this recited system as software per se." *Office Action*, dated November 28, 2007, at page 5. The Examiner states: "[W]hen interpreting the claim in light of the Specification, the claims are considered as non-statutory when interpreted as software per se." *Id.*, at page 2.

Applicant respectfully contends that interpreting the "analysis means" and "modeling means" as "software per se" is an improper claim construction not supported by 35 U.S.C. §112, sixth paragraph, since software per se is neither the disclosed structure or an equivalent to the disclosed structure.

The patent laws, in 35 U.S.C. §112, sixth paragraph, expressly set forth the manner in which phrases written as "means for performing a function" are to be interpreted. As set

<center>7</center>

forth in 35 U.S.C. §112, sixth paragraph, "such claims shall be construed to cover the corresponding *structure*, material, or acts described in the specification and equivalents thereof." 35 U.S.C. §112, sixth paragraph, (emphasis added). Thus, the "means for" clauses are interpreted based on the *structure* described in Applicant's Specification. See, generally, MPEP 2181 (II), as well as MPEP 2106 which notes:

> Where means plus function language is used to define the characteristics of a machine or manufacture invention, such language must be interpreted to read on only the structures or materials disclosed in the specification and "equivalents thereof" that correspond to the recited function. Two en banc decisions of the Federal Circuit have made clear that the USPTO is to interpret means plus function language according to 35 U.S.C. § 112, sixth paragraph. *In re Donaldson*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994) (en banc); *In re Alappat*, 33 F.3d 1526, 1540, 31 USPQ2d 1545, 1554 (Fed. Cir. 1994) (en banc).

Thus, the Office Action's interpretation that the "means for" features of Applicant's claims somehow embrace software not included in the physical system (which would not be structural) conflicts with the statutory requirement for the interpretation of means plus function claims, and cannot stand.

Applicant thus respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. §101.

Discussion of Rejections Under 35 U.S.C. §102 and §103

Claims 1-4, 6-9, 11-14, 17-20, 22, and 24-25 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over EP publication No. EP1089452 to Freiberg et al. (hereinafter Freiberg) in view of U.S. Patent Application Publication No. 2002/015439 to Kohli et al. (hereinafter Kohli). Claims 10 and 16 stand rejected under 35 U.S.C. §102(a) as allegedly being anticipated by Freiberg .

The Examiner identified the phrases "a searcher operable to" and "a modeling processor operable to" as non-positive functional language. Additionally, the Examiner identified the phrases "using the maximum signal" and "using the mathematical model" as intended use limitations. Applicant has amended the claims to further distinguish the structural natural of these features, rendering the rejections moot.

Functional Language

Applicant amends claims 1 and 10 to use the phrase "configured to" rather than "operable to."

As noted in MPEP 2173.05(g), there is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971). A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step.

However, MPEP 2114 notes that, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997).

Turning to the current claims, the features limit and differentiate the structure from the prior art. For example, claim 1 includes the feature:

"a modeling processor configured to generate a second order polynomial mathematical model of a predetermined response function using the maximum signal level and correlation signal levels from predetermined points in time adjacent the selected time…"

The modeling processor of claim 1 is structurally different from a modeling processor that generates a mathematical model differently. The claimed modeling processor includes hardware, software, firmware, or a combination to generate a second order polynomial using the particular parameters included in the claim.

Federal Circuit law is clear that programming a machine in a different way transforms it to a new machine. For example, *WMS Gaming Inc. v. International Game Tech.*, 184 F.3d 1339, 1348 (Fed. Cir. 1999) notes that:

> A general purpose computer, or microprocessor, programmed to carry out an algorithm creates "a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software." *In re Alappat*, 33 F.3d 1526, 1545, 31 U.S.P.Q.2D (BNA) 1545, 1558 (Fed. Cir. 1994) (en banc); see *In re Bernhart*, 57 C.C.P.A. 737, 417 F.2d 1395, 1399-1400, 163 U.S.P.Q. (BNA) 611, 615-16 (CCPA 1969) ("If a machine is

programmed in a certain new and unobvious way, it is physically different from the machine without that program; its memory elements are differently arranged."). The instructions of the software program that carry out the algorithm electrically change the general purpose computer by creating electrical paths within the device. These electrical paths create a special purpose machine for carrying out the particular algorithm.

Similarly, a modeling processor configured with the features of claim 1 is structurally different than a modeling processor configured differently. Thus, rather than containing "non-positive functional language," the claims recite particular features of the modeling processor and searcher that are different from features of the prior art.

Intended Use

Applicant amends claims 1, 10, 11, and 17 to overcome alleged statements of intended use.

Prior Art

Claim 1 recites "[a] system to determine the time of arrival in a wireless communication system." The system includes "a modeling processor...to determine a time of arrival of the received signals based on the time associated with the peak correlation signal level, an offset time encoded in the received signals, the mathematical model *and an iterative algorithm that avoids a division operation*." (*emphasis added*). This feature is neither taught nor suggested by Freiberg nor Kohli, whether alone or in combination.

Freiberg fails to teach or suggest determining a time of arrival. The Examiner fails to cite any portion of Freiberg that describes determining a time of arrival. Indeed, as discussed in Applicant's prior Response, dated September 18, 2007, Freiberg describes a method of estimating a timing error in a received signal. *Freiberg*, Abstract. Freiberg is only concerned with determining an error of a locally generated spreading sequence to a received signal. Freiberg fails to describe or even discuss a time of arrival. As conceded by the Examiner, Freiberg fails to describe or even discuss an offset time encoded in the received signals. Furthermore, Freiberg fails to teach or even suggest "*an iterative algorithm that avoids a division operation*," as claimed. (*emphasis added*).

The combination of Freiberg with Kohli fails to cure the deficiencies of Freiberg alone. The Examiner does not argue that Kohli teaches or suggests this claimed feature and does not cite to any reference that teaches or suggests the claimed feature. Therefore, the combination of Freiberg with Kohli fails to cure the deficiencies of each reference alone,

because both cited references fail to teach or suggest at least the claimed feature of "determining a time of arrival of the received signals based on the time associated with the peak correlation signal level, an offset time encoded in the received signals, the mathematical model *and an iterative algorithm that avoids a division operation*," and the combination of the two references fails to teach or suggest a feature that is absent from each reference individually. Applicant respectfully requests reconsideration and allowance of claim 1.

Claim 11 similarly includes the feature of "modeling means…for determining a time of arrival of the received signals based on the time associated with the peak correlation signal level, an offset time encoded in the received signals, the mathematical model and *an iterative algorithm that avoids a division operation*." (*emphasis added*). Thus, Claim 11 is believed to be allowable over Freiberg and Kohli for at least the reasons presented above in relation to claim 1. Applicant respectfully requests reconsideration and allowance of claim 11.

Claim 17 includes the feature of "determining a time of arrival of the received signals based on the time associated with the peak correlation signal level, the offset time, the mathematical model and *an iterative algorithm that avoids a division operation*." Claim 17 is believed to be allowable over Freiberg and Kohli for at least the reasons presented above in relation to claim 1. Applicant respectfully requests reconsideration and allowance of claim 17.

Applicant respectfully requests entry of the amendments to claims 1, 11, and 17 as placing the application in condition for allowance or otherwise place the claims in a better form for appeal. The amendments are believed to place no additional search burden on the Examiner. Indeed, the amendment of claim 1 expressly incorporates the limitations from dependent claim 26 into claim 1, and the Examiner previously searched and examined the subject matter of claim 26 as summarized in the final Office Action.

Claim 10 is amended to correct the objections to the form of the claim. Claim 10 includes the feature of "a modeling processor generating an nth order polynomial, *n being greater than two*, mathematical model of a predetermined response function." (*emphasis added*). As discussed in Applicant's prior Response, dated September 18, 2007, Freiberg fails to teach or suggest this claimed feature. The final Office Action does not cite to any prior art that teaches or suggests the claimed feature. Therefore, Applicant respectfully requests reconsideration and allowance of claim 10.

Claims **2-4, 6-9, 12-14, 18-20, 22, and 24-25** depend, either directly or indirectly, from one of claims 1, 11, or 17 and are believed to be allowable at least for the reason that they depend from an allowable base claim. Applicant respectfully requests reconsideration and allowance of claims 2-4, 6-9, 12-14, 18-20, 22, and 24-25.

Entry of Amendments

Applicant respectfully requests entry of the amendments as addressing objections to the claim language not identified prior to the final Office Action. The amendments are believed to address the Examiner's objections to the form of the claims, and are believed to place the application in condition for allowance or in better form for appeal.

CONCLUSION

Applicant believes that all claims pending in the application are allowable. Applicant therefore respectfully requests that a timely Notice of Allowance be issued in this case. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned.

If there are any other fees due in connection with the filing of the response, please charge the fees to our Deposit Account No. 17-0026. If a fee is required for an extension of time under 37 CFR 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

Dated: February 28, 2008   By: /Linda G. Gunderson/
                                            Linda G. Gunderson
                                            Attorney for Applicant
                                            Registration No. 46,341

QUALCOMM Incorporated
5775 Morehouse Drive
San Diego, California 92121-2779
Telephone: (858) 651-7351
Facsimile: (858) 658-2502
61250202 v1